

AMERICAN FOUNDRYMAN

Published by

AMERICAN FOUNDRYMEN'S SOCIETY, INC.

616 S. Michigan Ave.

Chicago 5, Ill.

INDEX

Volumes 17 and 18, January - December, 1950

	Issue	Page		Issue	Page
Abstracts					
A					
Aluminum: Alloys, Iron Crucibles for Melting	Sept	60	Foundry: Conveyor Systems	May	131
and Cast Iron Brake Drums	Jan	95	Departments, Coordinate	July	89
Die Casting Design	Feb	92	Engineering, F.E.E. Objectives	Sept	61
Foundry, Ideal	Mar	90	Inventory Control	July	88
Foundry Quality Control	Nov	93	Mechanization	Apr	186
Permanent Mold Cast	June	62	Modern Canadian	Nov	93
Annealing Malleable Iron	Jan	95	and Pattern Shop Production Control	May	129
Bearing Alloy, Lead-Bronze	Apr	187	Production Planning	July	89
Bentonite Bonding Materials	Feb	92	Gas Porosity	May	130
Brass and Bronze Porosity	Sept	60	Graphite Facing Mixture	Oct	97
British Foundry, Diversified	Sept	60	Gray Iron: Production	Apr	187
Bronze Analysis, Manganese	Nov	93	Quality Tests	Nov	93
Casting: Defects Caused by Core Gas	Oct	97	Handling Materials at the Shakeout	July	88
Large Gears	Sept	60	Heating the Foundry	Jan	95
Permanent Magnets	Apr	188	Heat Treatment of Alloy Steels	May	130
Cast Iron: Acicular	Apr	186	Investment Casting Tolerances	May	134
Aging Required in Chill	July	89	Machining Short Runs, Reproduction	Dec	96
Crankshafts	Oct	97	Magnesium: Casting Properties	Mar	90
High Temperature Tests	Jan	95	Precision Casting	May	130
Machinability	Sept	60	Rate Earth Alloys	Feb	91
Microstructures	June	62	Malleable: Annealing Furnaces	Apr	188
Pearlitic Structure Diagrams	Sept	61	and Gray Iron Cooling	Feb	93
Properties	Apr	186	Materials Handling	Jan	93
Solidification and Structure	July	89	Melting: and Casting Beryllium	Mar	90
Converter Blast Gases	Sept	60	Copper-Base Alloys	Apr	186
Copper-Lead Casting Problems	May	132	Metal Polishing	May	131
Core: Baking, Dielectric	Oct	96	Mixing and Sampling Granular Material,		
Binder, Resin	Oct	96	Deviation Formula	Sept	60
Binders, Synthetic Resin	May	132	Mold Drying Oven	June	62
Cupola: Blast Control	July	88	Molding: Heavy Floor	Apr	186
Blast, Oxygen Enrichment of	Sept	61	Process (Crowning)	Sept	60
Relining	Sept	60	Sand Binder	Dec	96
Designing Metal Parts for High Temperature			Nickel in Brass and Bronze	Jan	43
Service	Feb	91	Nodular Cast Iron(s)	May	131
Desulphurizing Iron, Ladle Treatment for	Sept	61	Applications	Oct	96
Die Casting:	Feb	93	Comparative Properties	May	129
Economics in	Jan	43	Crystallization	June	62
Process, New	Jan	43	Developments	Sept	60
Ductile Cast Iron: Evaluation of	Feb	91	Ferritic	Apr	186
Producing	Nov	93	Magnesium Determinations in	May	134
Specifications	Oct	96	Performance	Feb	93
Ductile Iron Castings, 30-Ton	Dec	97	Production Data	Oct	97
Dust Control	Mar	90	Service Data	Dec	96
Flaking in Steel	Apr	187	in Thin Sections	July	88
				Apr	186
				Dec	97

	Issue	Page
Non-Ferrous: Foundry Practice	May	134
Melting Furnaces	May	130
Pattern for 30-Ton Casting, Production	May	131
Plating, Hard Chrome	Nov	93
Precision-Cast Forming Tools	July	88
Precision Casting: Accelerating Investment in	Feb	93
Croning Process	Nov	93
Investment	Apr	187
Large	Apr	186
Sand Binders, Organic	Apr	186
Spectrographic Analysis, Ductile Iron	Feb	92
Steel: Carburization	Apr	186
Casting Production, High-Alloy	May	129
Corrosion-Resistant Cast	Dec	97
Foundry Developments	Mar	90
Foundry Heading and Gating	June	62
Foundry, Mechanized	July	89
Foundry Molding	May	129
Foundry Training Plan	May	132
Heats Desulfurized	Sept	60
Solidification Factors	May	130
Test Block Design	May	132
Air Conditioning Crane Cabs: R. D. Darrah	May	72
Alloys: Copper Beryllium Casting	Sept	34
Tin and Lead Base, Direct Colorimetric		
Determination of Copper and Iron in	Sept	54
Aluminum: Additions in Commercial Yellow Brass	Apr	135
Alloy Castings, Gating Formula for	Aug	32
Alloys Containing Sn and Sb, Cu Electrodeposition from	Aug	27
Alloys, Foundry Practices for	Oct	63
Alloys, Iron Crucibles for Melting (abstract)	Sept	60
Castings, Band Sawing	Apr	103
Castings Quality Control (abstract)	Nov	93
Castings, Precision	July	50
Centrifugal Casting of	July	56
Die Casting	July	54
Die Castings, Design (abstract)	Feb	92
Foundry Plant and Equipment (abstract)	Mar	90
Gas Porosity in (abstract)	May	130
Investment Casting	July	55
and Magnesium Casting Design Manual, AFS Committee Plans	Sept	37
Permanent Mold Casting	July	52
Plaster Casting	July	55
Precision Casting in Moist Investment Molds	Apr	122
Sand Casting	July	52
Sand Castings, Causes of Defects in	June	51
in Steels, Colorimetric Determination of	Apr	105
Test Bar Casting Design	Apr	114

American Foundrymen's Society

Awards, 1950	Apr	60
Board of Directors: Annual Meeting	Feb	29
Approves Plan for Permanent Society Home	July	22
Initiates Long Range Program	Sept	22
Votes Dues Waiver to Members in Armed Forces	Mar	30
Building Fund	Nov	27
Exceeds Year's Quota in Three Months	Oct	32
Elect 1950-51 Officers and Directors	Dec	32
Foreman Training Manual Published	Nov	25
Foundry Congress, 1950	May	54
Exhibits and Exhibition	Jan	69
Foreign Visitors	Mar	22
Hosts	Apr	57
News	Apr	78
Old Timers	Apr	61
Plans Reach Final Stage	June	30
Plant Visitation	Apr	92
Program	May	34
Program Announced, Tentative	July	46
Speakers	Feb	22
	Apr	81
	Apr	68
	Jan	22
	Apr	66

	Issue	Page
Foundry Congress, 1951: Buffalo 55th Convention City	June	24
Convention Program Taking Shape	Dec	41
Host Annual Lecturer	July	27
Foundry Congress, 1952, International	Oct	28
Library Receives Rare Volume	June	60
Malleable Research Project Complete, First	Feb	26
Nominate 1950-51 Officers and Directors	Jan	32
Officers and Directors	Apr	89
Progress in Committee Work	Apr	110
Report to the Membership, 1949-50	June	25
Analysis of Ductile Cast Iron, Spectrographic (abstract)	Feb	92
Annealability, Malleable Iron	May	88
Annealing Malleable Iron (abstract)	Jan	95
Apply Radioisotope-Cobalt 60-to Radiography of castings: Herbert R. Isenberger	July	49
Apprentice Committee Formed, Tulsa Molders' Joint	May	87
Apprentice Contest, 1950: Increased Activity	Aug	28
Winners	May	60
Apprentice Contest, 1951: Announce Sept. 15 Opening	Sept	37
Entries Required to Meet Minimum Standards	Oct	60
Apprentice Training in Australia	Sept	27

B

Band Sawing Non-Ferrous Castings:		
H. J. Chamberland	Apr	102
Basic Principles Common to Foundry Melting Practices: Philip C. Rosenthal	Jan	48
Belgian Foundry, 400-Year Old: Robert Doat	Sept	57
Belgian Nodular Iron Research: Albert DeSuy	May	75
Bending Tool, Rod	Nov	30
Bentonites, Treatment for (abstract)	Feb	92
Better Sulphur Elimination in Basic Open Hearth Melting: John G. Rivet	Dec	61

Bibliographies

Aluminum Alloys Containing SN and SB		
Electrodeposition of Cu from	Aug	27
Bronze, Manganese, MnSi and FeSi		
Determinations in	Feb	62
Copper Beryllium Casting Alloys	Sept	37
Cupola, Oxygen Enrichment in	June	41
Determination of Copper and Iron in Tin and Lead Base Alloys, Direct Colorimetric	Sept	54
Foundry Melting: Practices	Jan	55
Principles	Jan	49
Galvanizing Gray Iron, Malleable, Steel	Dec	67
Magnesium Melts, Degassing	Mar	29
Nickel in Monel Metal, Colorimetric		
Determination of	July	66
Nodular Cast Iron: F. R. Morral	July	61
Sands, Silica, Sieve Analysis of	Aug	43
Tests, Fatigue	Nov	24
Welding Gray Iron	Dec	52

Book Reviews

Bibliography of Centrifugal Castings: H. E. Taylor and C. L. Register	Feb	67
Cast Iron Mixtures in Modern Foundry: Mario Oliva	Apr	181
Dynamic Equipment Policy: Geo. Terhough	Apr	181
Fatigue Allowance in Industrial Time Study: Mathew A. Payne	Apr	181
Handbook of Chemistry and Physics	Apr	180
Principles of Metallographic Laboratory Practice: George L. Kehl	Feb	67
Tool Engineers Handbook	Apr	180
Training Films	Apr	180
Brass and Bronze: Colorimetric Determination of Nickel in	Oct	67
Brass Grindings, How to Salvage	Oct	61
Brass, Yellow: Castability Tests	Apr	136
Optimum Aluminum Additions in	Apr	136
Property Tests	Apr	135

	Issue	Page
Bronze: Analysis, Manganese (abstract).....	Nov	93
Manganese and Iron Sulphide Determinations in Manganese.....	Feb	61
Burning In the Cupola Bed: B. P. Mulcahy.....	July	42
Buyers Guide.....	Apr	191
Buyers Guide.....	May	137

C

Carbon Pick-up with High Steel Cupola Charges.....	Feb	59
Cast Iron: Acicular (abstract).....	Apr	186
Cooling Rates (abstract).....	July	89
Crankshafts, Properties and Design.....	Oct	97
Desulphurizing with Magnesium.....	Sept	43
Durability of Chilled (abstract).....	July	89
Effect of Silicon on Critical Temperature Range of (abstract).....	Feb	93
Grain Size Control.....	Jan	51
Hardness (abstract).....	Apr	186
Machinability Test for (abstract).....	Sept	60
Mercury Cathode Method for Magnesium Determination in.....	Jan	65
Microstructures, Effect of Additions on (abstract).....	June	62
Pearlitic Structure Diagrams (abstract).....	Sept	61
Production, Gray (abstract).....	Apr	187
Surface Hardness, Method of Adding Tellurium for.....	Feb	28
Casting: Centrifugal (abstract).....	Nov	93
Centrifugal, Aluminum.....	July	56
Centrifugal, Counterflow.....	July	35
Centrifugal, of Steel Chain.....	Sept	41
Centrifugal, of Welding Rods: M. W. Williams.....	Jan	44
Design, Section Size Factor in (letter).....	Oct	68
Finishes, Evaluating.....	Feb	47
Large Gears, Methods for (abstract).....	Sept	60
Methods, Iron and Steel Rolls.....	Feb	42
Precision, With Crowning Process (abstract).....	Nov	93
Processes, Develop New.....	July	34
Techniques for Investment.....	Oct	33
Castings: Advantages of.....	Jan	35
Can Do It Better: Bruce L. Simpson.....	Jan	34
Cleaning Cylinder Block.....	Dec	42
Continuous Filing for.....	Dec	37
Defective, Rochester Chapter Meeting on Identification and Cure.....	May	98
Producing Composite.....	Dec	50
Recommendations to Buyers of.....	Mar	44
Cast Materials, Notch Sensitivity of Various.....	Nov	22

Chapter

British Columbia Presents Plaques to Meeting Speakers.....	Aug	39
Directory, 1950-51.....	Aug	55
Educational Roundup, 1949-50.....	June	48
Michigan State College Student.....	May	71
Officers Meet in Chicago.....	July	22
Philadelphia: Holds Cupola Shop Course.....	Sept	49
Develops New Educational Program.....	Jan	55
Promotes Foundry Safety.....	June	60
Southern California Student Essay Contest: E. K. Smith.....	July	65
University of Alabama Student.....	May	59
Wisconsin, and University of Wisconsin Hold Joint Meeting.....	Jan	67
Chemical Laboratories, Basic Equipment for Foundry.....	Jan	40
Chilled Iron, Chemistry of.....	Aug	46
Cleaning: Abrasive.....	Apr	101
Airless Blast.....	Apr	96
Castings, Continuous Filing for.....	Dec	37
Cylinder Block Castings.....	Dec	42
Equipment, Selection and Application of.....	Apr	96
Pickling.....	Apr	98
Room, Air Grinders and Chippers in.....	Nov	28
Rooms and Cabinets.....	Apr	100
Sandblasts.....	Apr	97
Tumbling.....	Apr	97
Wet Blast.....	Apr	98

	Issue	Page
Closed Top System in Cupola Stack Emission Control: J. F. Drake and T. G. Kennard.....	Feb	55
Coke: Breakage Reduced.....	Mar	27
Breeze Briquettes Cuts Cupola Melting Cost.....	Mar	40
Foundry, Handling by Bucket Elevator.....	Mar	27
Colorimetric Determination: of Aluminum in Steels: J. Carroll, I. Geld and G. Norwitz.....	Apr	105
Direct, of Copper and Iron in Tin and Lead Base Alloys: M. Sherman.....	Sept	54
of Nickel in Brasses and Bronzes: W. L. Miller and George Norwitz.....	Oct	67
of Nickel in Monel Metal: C. Goldberg.....	July	66

Committee

Aluminum and Magnesium Test Bar: Report.....	Apr	114
Brass and Bronze Research: Quality Test for 85-5-5-5 Red Brass, Reports.....	Oct	30
Division and General Interest: Meetings.....	Nov	49
Gray Iron Gating and Riser: Rigging Survey.....	Jan	25
Gray Iron Technical: Meeting.....	Oct	38
Publications: Plan Book Revisions.....	July	32
Safety and Hygiene: Plan Program.....	Jan	33
Steel Technical: Meeting.....	Oct	38
Technical Correlation: Mid Year Meeting.....	July	32
Continuous Filing as Applied to Castings: H. J. Chamberland.....	Dec	57
Control: Aluminum Castings Quality (abstract).....	Nov	93
Cupola Blast (abstract).....	July	88
Cupola, Slagging Practice in.....	Oct	64
Electric Furnace: Time.....	Nov	33
Foundry Inventory (abstract).....	July	88
Foundry, Through Laboratory Services.....	July	58
Sagging in Oil Sand Cores.....	Dec	57
Conveyors, High Temperature Fabrication of.....	Mar	50
Copper: Beryllium Casting Alloys: Binary: Vaughn D. Hildebrandt.....	Sept	34
Electrodeposition from Aluminum Alloys Con- taining Sn and Sb: George Norwitz.....	Aug	27
and Iron in Tin and Lead Base Alloys, Direct Colorimetric Determination of.....	Sept	54
Copper Base Alloys: Band Sawing.....	Apr	104
Gas Removal.....	Jan	52
Have Wide Range of Properties: R. A. Colton.....	Feb	49
Core: Baking, Dielectric (abstract).....	Oct	96
Binder, Synthetic Resin (abstract).....	May	132
Binders.....	Jan	62
Boxes, Abrasion Resistance of.....	Jan	62
Gas Liberation (abstract).....	Oct	97
Oil Evaluation.....	Aug	52
Oil Evaluation Method: R. H. Olmsted.....	June	58
Sag Controlled: Thomas E. Barlow.....	Dec	57
Sand, Dewatering.....	May	74
Sand Selection Factors.....	Feb	58
Coremaking, Sheet Metal Forms Simply.....	Feb	36
Cores: Ceramic Faced Sand.....	July	35
Spinning Pipe.....	Oct	62
Corrosion Resistance, Nodular Iron.....	Jan	62
Cost: Coke Breeze Briquettes Cut Cupola Melting Control.....	Mar	40
Apr	132	
Cuban Trainee Looks at U. S. Patternmaking: Luis Mojcar.....	Aug	37
Cupola: Auxiliary Oxygen, Applied in Large.....	June	40
Bed, Methods of Burning In.....	July	42
Blast, Oxygen Enrichment of (abstract).....	Sept	64
Charges, High Steel.....	Feb	59
Control, Slagging Practice in.....	Oct	64
Melting Cost, Coke Breeze Briquettes Reduce.....	Mar	40
Miniature, How to Make and Operate (letter).....	Nov	68
Mixing Ladle Control.....	May	74
Operation (abstract).....	July	88
Refining (abstract).....	Sept	60
Skip Hoist, Laboratory.....	May	84
Stack Emission Control, Closed Top System in.....	Feb	55

D

Defects in Aluminum Sand Castings, Causes of.....	June	51
Degassing: Magnesium Alloy Melts, Equipment for Melt.....	Mar	28
July	34	

	Issue	Page
Deoxidizers, Inoculants as	Jan	49
Design, Al-Mg Test Bar Casting	Apr	114
Designing Metal Parts for High Temperature Service (abstract)	Feb	91
Desulphurizing: Gray Cast Iron With Magnesium: J. E. Rehder	Sept	43
Iron, Ladle Treatment for (abstract)	Sept	61
Soda Ash	Oct	62
Steel with Magnesium (abstract)	Sept	60
Develop Gating Formula for Aluminum Alloy Castings: Alfred J. Howarth	Aug	32
Die Casting: (abstract)	Apr	186
Aluminum	July	54
Economics (abstract)	Jan	43
Process, New (abstract)	Jan	43
Die Casting: Design Aluminum (abstract)	Feb	92
Save Tooling Costs (abstract)	Feb	93
Dies for a Malleable Production Foundry: K. L. Sanders	Aug	24
Ductile Cast Iron: Comparative Properties of (abstract)	Feb	91
Properties (abstract)	Nov	93
Spectrographic Analysis of (abstract)	Feb	92
Dust Control: (abstract)	Mar	90
Cupola Closed Top System in	Feb	55
Vacuum Cleaning in Foundry	Apr	141

E

Economy Plus From Vacuum Cleaning in Foundries J. W. Gaffney	Apr	141
--	-----	-----

Editorial

A Word for the Foundry Industry: E. W. Horlebein	Apr	55
Creative Selling	Mar	21
Five Principles Govern All A.F.S. Activity: Wm. W. Maloney	June	23
Foreign Foundry Developments Merit Attention: Gosta Vennetholm	Aug	21
How Gates and Risers Sell Castings	Sept	21
How We Live	Feb	21
Participating in A.F.S. Committee Work: R. G. McElwee	July	21
Personnel Plans Made Now Assure Industry Growth: F. G. Selig	Jan	21
Significance of Industrial Safety and Hygiene: Wm. B. Given, Jr.	Nov	21
The Road Ahead: Walter L. Seelbach	Dec	27
Tools to Him That Can Handle Them: Edward C. Hoernicke	May	33
Train Tomorrow's Foundrymen Today: F. C. Riecks	Oct	27
Electrolytic Determination of Copper in Tin Base Alloys	Aug	27
Equipment: Cleaning Room	Apr	96
Crane Cab Air Conditioning	Dec	42
for Degassing Magnesium Alloy Melts: Alex J. Juroff	Mar	28
Foundry Chemical Laboratory	Jan	40
Foundry Laboratories, Metallographic and Physical Testing	Feb	39
Foundry, Pneumatic	Nov	28
Foundry Preventative Maintenance	Mar	47
European Productivity Teams Visit U. S. Foundries	Nov	59
Evaluating Casting Finishes: H. H. Fairfield and James MacConachie	Feb	47
Exhibits Preview	Feb	31
Exhibits Preview	Mar	31
Exhibits Preview	Apr	82

F

Factors Influencing Core Sand Selection: Joseph P. Avilla	Feb	58
Feeding Techniques, South African Steel Casting	Nov	50
Filing, Continuous	Dec	37
Flow Studies Develop Better Gating	Dec	28

Fluidity Tests	Issue	Page
Fluxes and Slags, Purpose of	Jan	62
Foreman Training Manual Guide Published by A.F.S.	Jan	48
Founders, England's 585-Year-Old Worshipful Company of	Jan	69
Founding, Metal, Through the Ages	Feb	46
Foundry: Canadian Modern (abstract)	Mar	50
Chemical Laboratories, Basic Equipment for	Nov	93
Coke—From Car to Charging Floor by Bucket Elevator: W. A. Hallberg	Jan	40
Competitive Position Expanded Through Better Personnel Training: Donald F. Lane	Mar	27
Controls Through Laboratory Services	Nov	60
Departmental Cooperation (abstract)	July	58
Engineered Redesign Sells Steel Castings	July	89
Exhibit, University of Illinois	June	36
Glossary	May	91
Glossary	July	40
Glossary	Aug	54
Industry Advisory Committee Meets U. S. Munitions Board	Sept	62
Laboratories, Metallographic and Physical Testing Equipment	Nov	64
Mechanized (abstract)	Feb	39
Pneumatic Tools in	Apr	186
Practice for Aluminum Alloys: G. H. Bradshaw	Nov	28
Practice, Non-Ferrous	Oct	63
Practice, Non-Ferrous (abstract)	May	64
Preventative Maintenance, Planning	May	134
Production Planning, Time Study and Standards in	Mar	47
Records Provide Check on Practice	June	45
Research, International Harvester Opens	May	64
Sand, Mineral Perlite Additions to	Sept	50
Standards, ASTM Revises	July	25
Work, Summer, for Student Engineers	Aug	64
Foundry Educational Foundation: Elects Officers	Mar	60
Scholarships to Wisconsin Foundry Students	June	55
Summer Training Program for Future Foundrymen	Dec	70
Technical and University Advisors Hold Joint Meet	Oct	58
French Foundry: Association Elects Officers	Mar	43
Cast Chain Centrifugally: Robert Ronceray	Aug	39
Industry, Technical Management Groups for	Sept	41
Fume Control—Electric Melting Furnaces: J. M. Kane and R. V. Sloan	July	31
Furnace, Fume Control for Electric	Nov	33
Malleable Annealing (abstract)	Nov	33
Non-Ferrous Melting (abstract)	Apr	188
Refractories, Acid Electric	May	130
Refractories, Acid Electric	Apr	117

G

Galvanizing Gray Iron, Malleable, Steel	Dec	64
Gas Absorption, Preventing	Jan	54
Gates and Risers: for High-Dross Non-Ferrous Alloys: H. W. Bennett	Sept	24
Sell Castings (editorial)	Sept	21
Gating: Design, Principles of	Apr	106
Flow Studies Develop Better	Dec	28
Formula for Aluminum Alloy Castings	Aug	32
and Heading Practice (abstract)	June	62
and Riser Control	Sept	56
and Riser Control, Gray Iron Sheave Casting	Jan	25
German Art Castings Displayed	Sept	49
Grain Size Control, Metal	Jan	50
Graphite Flake Classification	June	59
Gray Iron: Founders' Society Annual Meeting	Dec	40
Galvanizing Characteristics: R. W. Sandelin	Dec	64
Quality Tests (abstract)	Nov	93
Torch and Arc Cutting of	Dec	51
Welding, Joining, Cutting: C. O. Burgess, Part 1	Oct	50
Part 2	Nov	44
Part 3	Dec	48
Grinding Balls, Casting	Feb	59

	Issue	Page
H		
Hardness: Malleable Iron	Jan	61
Method of adding Tellurium for Cast Iron Surface	Feb	28
Heating the Foundry (abstract)	Jan	95
High Temperature Service, Designing Metal Parts for (abstract)	Feb	91
Hörlebein, E. W.: President's Annual Address	July	28
How to Build Strength into Large Patterns: Alfred E. Wells	June	38
Select Proper Squeeze Piston Size in Molding Machines: Walter W. Eichenberger	Jan	57
Use Phenolic Casting Resins for Pattern Coatings: E. J. McAfee	Feb	27
Hydrogen Eliminated by Gas Reaction	Jan	53

I		
IRF Holds Annual Conference: I. Makenson	July	39
India's Mystery Iron Pillar—Casting or Weldment? Man Singh	Oct	49
Inoculants as Deoxidizers	Jan	49
Insertion Process Cuts Cost of Matchplate Manufacture: Franz Schumacher	Sept	30
Inspection: Die Method for Casting	Sept	37
Magnetic Water Test	Dec	45
Inventory Control, Foundry (abstract)	Dec	45
Investment Casting: Aluminum	July	88
Techniques: K. J. Yonker and G. A. Stolze	July	55
Iron Pillar—Casting or Weldment?	Oct	33
Iron Rolls, Casting	Oct	49
	Feb	42

L		
Laboratory: Development and Control Model	Aug	44
MFT Metal Processing	Oct	47
Services, Foundry Controls Through	July	58
Let's Pretend: E. F. Chittenden	Jan	37
Light Metal Alloys, Gas Removal	Jan	52
Lining, Ladle	Apr	119

M		
Magnesium: Alloy Melts, Equipment for		
Degassing	Mar	28
Alloys, Desulphurizing Gray Cast Iron with	Sept	43
Castings, Band-Sawing	Apr	103
Castings, Design and Production (abstract)	Mar	90
Castings, Fluid Flow Studies Develop Better Gating for	Dec	28
Determinations in Nodular Iron—Sampling and Analysis Methods: J. L. Yarne and W. B. Sobers	June	33
Division Fluid Flow Research Project	Dec	28
Grain Size Control	Jan	51
Hammer Handles Cast in Permanent Molds: E. M. Kramer and B. Mohr	June	28
Iron Determined by Mercury Cathode Method: A. E. LaRochelle and J. A. Fournier	Jan	65
Plane Wings, Investigate Casting of	Oct	48
Precision Cast (abstract)	May	130
Test Bar Casting Design	Apr	114
Maintenance, Planning Foundry Preventative	Mar	47
Malleable: Cast Iron, Producing	Oct	39
Founders' Society Hold Annual Meeting	July	60
Foundry Straightening Dies	Aug	24
Galvanizing	Dec	64
Iron Annealability: Milton Tilley	May	88
Iron Annealing (abstract)	Jan	95
Iron Annealing Furnaces (abstract)	Apr	188
Iron, Effect of Silicon on Critical Temperature Range of (abstract)	Feb	93
Iron Hardness	Jan	64
Manganese and Iron Sulphide Determinations in Manganese Bronze: David M. Zall	Feb	61
Matchplate, Insertion Process Cuts Cost of	Sept	30
Measuring Casting Surface Finish, Method of	Feb	47

Mechanized: Foundry (abstract)		
Sand Conditioning and Distribution System at Ohio State: John W. Anibal	Apr	186
Steel Foundry	May	85
Melting: Copper-Base Alloys (abstract)	July	89
Practices, Basic Principles Common to Foundry	Apr	186
Reducing Cost of Cupola	Jan	48
Time Reduced With Oxygen	Mar	39
Under Oxidizing Conditions, Effect of	May	57
Metal: Founding Through the Ages: Hugh O'Neill	Jan	53
Polishing, Electrolytic (abstract)	Mar	50
Specimens Mounted at Room Temperature	May	31
Metallographic Testing Equipment for Foundry Laboratories	Mar	56
Metallurgical Specimens, Method of Mounting	Feb	39
Metallurgy: Ancient	Mar	56
of Iron Base Rolls: F. E. Sutherland	Mar	51
Mineral Perlite—Foundry Uses: E. D. Boyle	Aug	46
Modern Foundry Methods: Band Sawing Non-Ferrous Castings	July	25
Briquetting Coke Breeze Cuts Melting Costs	Apr	102
Casting Steel and Iron Rolls	Mar	40
Cast Iron Soil Pipe, Automatic Production Process for	Feb	42
Centrifugal Casting, Welding Rods	Sept	38
Cupola Mixing Ladle Control	Jan	44
Cylinder Block Cleaning at Ford Motor Co. Laboratory, Development and Control	May	71
Dewater Core Sand	Dec	42
Foundry Techniques Developed	Aug	44
Plastic Patternmaking for Small Pattern Shop	May	74
Product Developments, Steel Casting	July	34
Shell Molding Process	Oct	42
Mold: Atmospheres	June	36
Drying Oven (abstract)	Nov	38
Molding: and casting Iron Soil Pipe, Automatic Process for	July	34
Heavy Floor (abstract)	June	62
Machine, Nomograph for Determining Squeeze Piston Size in	Sept	38
Mixture, Graphite Facing (abstract)	Apr	186
Practice, Radiography in Development of	Jan	56
Process, Croning (abstract)	Oct	97
Sand Binder (abstract)	Jan	60
Sands, Uses of Olivine in	Sept	60
Sheet Metal Forms Simplify	Jan	43
Steel, Flasks and Rigging (abstract)	Apr	139
Molds and Cores, Croning Process for	Feb	46
	May	129
	Nov	38

N		
National Castings Council Elects Officers	June	55
Nickel in Monel Metal, Colorimetric Determination of	July	66
Nodular Cast Iron: Bibliography	July	61
Comparative Properties (abstract)	June	62
Corrosion Resistance	Jan	62
Developments (abstract)	Apr	186
Evaluation of (abstract)	May	134
Magnesium Determinations in	Feb	91
Magnesium Effects Nucleation in (abstract)	June	33
Present Status of: Herbert F. Scobie	Sept	60
Produce Large Castings of Ferritic (abstract)	Oct	46
Production Data (abstract)	Feb	93
Production Factors (abstract)	July	88
Properties (abstract)	Oct	96
Properties and Applications (abstract)	Nov	93
Research	May	129
Service Data (abstract)	May	75
Specifications (abstract)	Apr	186
Spectrographic Determination of Magnesium in (abstract)	Oct	96
Terminology	Oct	97
Nomograph for Determining Molding Machine Squeeze Piston Size	Jan	74
Non Ferrous: Alloys, Gates and Risers for	Jan	56
	Sept	24

	Issue	Page
Castings, Band-Sawing	Apr	102
Foundry Practice: C. A. Robeck	May	64
Notch Sensitivity of Various Cast Materials:		
T. E. Eagan	Nov	22

O

Obituary		
Bellsnyder, Tom	Aug	67
Fulton, A. M.	Mar	46
Gillett, Dr. Horace W.	Apr	121
Gregg, Alfred W.	June	67
Hammond, Thomas S.	July	33
Janssen, Walter A.	Mar	46
McElwee, R. G.	July	57
Optimum Aluminum Additions in Commercial		
Yellow Brass: R.A. Colton and R.H. Gilbert	Apr	135
Oxidation in Cupola Melting, Effect on Malleable		
Iron Annealability	May	88
Oxygen: Enrichment in Large Cupolas	June	40
Speeds Foundry Open Hearth Melting:		
L. L. Whitney	May	57

P

Participating in A.F.S. Committee Work, Editorial:		
R. G. McElwee	July	21
Pattern: Coatings, Phenolic Casting Resins for	Feb	27
Mounting on Matchplate, Insertion Method of	Sept	30
Patternmaking, Cuban Trainee Looks at U.S.	Aug	37
Patterns, Building Strength into Large	June	38
Plastic, for Small Pattern Shop	Oct	42
Permanent Magnets, Casting alloys for (abstract) ..	Apr	188
Permanent Mold: Casting, Aluminum	July	52
Casting, Automatic (abstract)	June	62
Magnesium Cast in	June	28
Personnel Plans Made Now Assure Industry		
Growth, Editorial: F. G. Schug	Jan	21
Physical Testing Equipment for Foundry		
Laboratories	Feb	39
Planning Foundry Preventative Maintenance:		
Thomas F. Butler	Mar	47
Plaster Mold Casting, Aluminum	July	55
Plastic: Pattern Coatings	Feb	27
Patternmaking for Small Pattern Shop:		
E. J. McElwee	Oct	42
Pneumatic Tools, Foundry Uses	Nov	28
Poll Shows Principal Causes for Defective Alumi-		
nium Sand Castings: W. E. Mahin and	June	51
Precision: Aluminum Castings: Hiram Brown	July	50
Casting Aluminum in Moist Investment Molds:		
H. Rosenthal and S. Lipson	Apr	122
Casting Design Factors (abstract)	May	134
Casting, Special Techniques	Oct	33
Castings, Large (abstract)	Apr	186
Investment Castings (abstract)	Apr	187
Principles of Gating Design: W. H. Johnson,		
W. O. Baker, and W. S. Pellini	Apr	106
Producing Malleable Cast Iron: Leo R. Friedman	Oct	39
Properties of Copper Base Alloys	Feb	49

R

Radiography: Gamma, Direct Reading Exposure		
Chart	July	48
Steel Casting Weld Repair	Jan	60
Steel Foundry: Richard M. Landis	Jan	58
Refractories, Uses of Olivine in	Apr	139
Refractory: Brick, Bonding Magnesite	Feb	60
Practice in Acid Electric Steel Melting:		
R. H. Jacoby and M. Petit	Apr	117
Storage	Apr	120

Regional Foundry Conferences

All Canadian	Aug	36
.....	Sept	32
.....	Nov	42
Birmingham	Jan	31
.....	Mar	36

	Issue	Page
Michigan	Oct	37
.....	Dec	55
New England	Oct	37
.....	Nov	34
Northwest	Sept	32
.....	Dec	36
Ohio	Feb	41
.....	Apr	144
Purdue	Oct	37
.....	Dec	46
Texas	Sept	32
.....	Nov	36
Wisconsin	Jan	31
.....	Mar	57
Resins for Pattern Coatings, Phenolic Casting	Feb	27
Rising Nodular Cast Iron	Feb	59
Riser Insulation, Mineral Perlite as	July	25
Rolls: Casting Steel and Iron	Feb	42
Metallurgy of Grain Type	Aug	49
Iron Base	Aug	46
Nickel Chill	Aug	49
Roof Construction, Electric Furnace	Apr	118
Round Table		
Practical Questions and Answers	Jan	62
.....	Feb	59
.....	Apr	133
.....	June	56
.....	Sept	56
.....	Oct	61
.....	Dec	54

S

Safety and Hygiene, Significance of Industrial,		
Editorial: Wm. B. Given, Jr.	Nov	21
Safety Program, Industrial	Jan	37
Sand: Binders, Organic (abstract)	Apr	186
Casting Aluminum	July	52
Conditioning and Distribution System	May	85
Control Should Include Mixer Operator		
Training: Eugene W. Fry	Nov	56
Cores, Oil, Control Sagging in	Dec	57
Dewatering Core	May	74
in Metal Grindings, Test for	Jan	42
Mixture, All Purpose	Nov	56
Rammer, Air	Nov	29
Selecting Core	Feb	58
Zircon, for Critical Castings	Oct	62
Sands, Sieve Analysis of Silica	Aug	40
Seacoal Analysis	Feb	60
Selection and Application of Cleaning Room		
Equipment: Stanley Kzeszowski	Apr	96
Unit, All Mechanical	Jan	68
Sheet Metal Forms Simplify Molding and		
Coremaking: Harry W. Dietert	Feb	36
Silica Sands Sieve Analysis: A. I. Kivnitsky		
and F. W. Raring	Aug	40
Slagging Practice—a Means of Cupola Control:		
Thomas F. Hart	Oct	64
Slags and Fluxes, Purpose of	Jan	48
Solidification, Control	July	35
Specimens, Metallurgical, Method of Mounting	Mar	56
Steel: Alloy, Heat Treatment (abstract)	May	130
Carburization (abstract)	Apr	186
Casting, 115-Ton	Aug	51
Casting in South Africa—Feeding Techniques:		
H. G. Govins	Nov	50
Castings, Pickling Removes Rust on Stainless	Jan	62
Castings, Replace Weldments	June	36
Cham, Centrifugal Casting of	Sept	41
Colorimetric Determination of Aluminum in	Apr	105
Desulphurized With Magnesium (abstract)	Sept	60
Flow in Finger Gating System	Apr	106
Foundry Heading and Gating Practice (abstract)	June	62
Foundry Radiography	Jan	58
Foundry Training Plan (abstract)	May	132
Galvanizing	Dec	64
Grain Size Control	Jan	50

	Issue	Page
Hydrogen in (abstract)	Apr	187
Melting, Gas Removal in	Jan	51
Melting, Oxygen in Foundry Open Hearth	May	57
Melting, Refractories in Acid Electric	Apr	117
Melting, Sulphur Elimination in Basic Open Hearth	Dec	61
Rolls, Casting	Feb	42
Solidification Factors	May	130
Test Block Design (abstract)	May	132
Summer Foundry Work for Student Engineers: Wyllys G. Stanton	Mar	60
Surface Finish, Evaluating Casting	Feb	47
Depends on Metal Type	Feb	48

T

Temperature Control in Mold	July	35
Test: Quality, for 85-5-5-5 Red Brass	Oct	30
for Sand in Metal Grindings	Jan	42
Specimens, Fatigue	Nov	23
Test Bar Committee Report: Walter Bonsack	Apr	114
Time Study: Organizing Department	Apr	129

INDEX TO AUTHORS

A

	Issue	Page
Anibal, John W.: Mechanize Sand Conditioning and Distribution System at Ohio State	May	95
Avila, Joseph P.: Factors Influencing Core Sand Selection	Feb	59

B

Baker, W. O., W. H. Johnson and W. S. Pellini: Principles of Gating Design	Apr	106
Barlow, Thomas E.: Core Sag Controlled	Dec	57
Bennett, H. W.: Gates and Risers for High Dross Non-Ferrous Alloys	Sept	21
Birch, N. A.: Triple Groove Sheave Casting Presents Rigging Problems	Jan	25
Bonsack, Walter: Al-Mg Test Bar Committee Report	Apr	114
Bowle, E. D.: Mineral Perlite—Foundry Uses	July	25
Bradshaw, G. H.: Foundry Practices for Aluminum Alloys	Oct	63
Brown, Hiram: Precision Aluminum Castings	July	50
Burgess, C. O.: Gray Iron—Welding, Joining, Cutting, Part 1	Oct	50
Part 2	Nov	41
Part 3	Dec	48
Butler, Thomas E.: Planning Foundry Preventative Maintenance	Mar	47
Byrd, Malley J.: University of Alabama's New Foundry Offers Top Facilities	Feb	35

C

Carroll, J., I. Geld, and G. Norwitz: Colorimetric Determination of Aluminum in Steels	Apr	105
Chamberland, H. J.: Band Sawing Non-Ferrous Castings	Apr	102
Chamberland, H. J.: Continuous Filing as Applied to Castings	Dec	37
Chittenden, E. F.: Let's Pretend	Jan	37
Colton, R. A.: Copper-Base Alloys Have Wide Range of Properties	Feb	49
Colton, R. A., and R. H. Gilbert: Optimum Aluminum Additions in Commercial Yellow Brass	Apr	135
Cramer, E. M., and B. Mohr: Magnesium Hammer Handles Cast in Permanent Molds	June	28

D

Darrah, R. D.: Air Conditioning Crane Cabs	May	72
DeSv, Albert: Further Results of Belgian Nodular Cast Iron Research	May	75

	Issue	Page
Procedure	Apr	128
and Standards Aid Foundry Production Planning	June	45
Tools to Him That Can Handle Them, Editorial: Edward C. Hoenicke	May	33
Training: Foundry Personnel	Nov	60
Program for Future Foundrymen	Oct	58
Triple Groove Sheave Casting Presents Rigging Problems: N. A. Birch	Jan	25

U

University of Alabama's New Foundry Offers Top Facilities: Malley J. Byrd	Feb	35
---	-----	----

W

Wage Incentive Administration: Charles T. Hassell	Apr	127
Welding: Gray Iron Castings	Oct	50
.....	Nov	44
.....	Dec	48
Rods, Centrifugal Casting of	Jan	44

Issue Page

Dietert, Harry W.: Sheet Metal Forms Simplify Molding and Coremaking	Feb	36
Doat, Robert: 100-Year Old Belgian Foundry	Sept	57
Drake, J. F., and T. G. Kennard: Closed Top System in Cupola Stack Emission Control	Feb	55

E

Eagan, T. E.: Notch Sensitivity of Various Cast Materials	Nov	22
Eichenberger, Walter W.: How to Select Proper Squeeze Piston Size in Molding Machines	Jan	57

F

Fairfield, H. H., and James MacConachie: Evaluating Casting Finishes	Feb	47
Farkas, J. J.: Time Study and Standards Aid Foundry Production Planning	June	45
Fournier, J. A., and A. E. LaRoche: Magnesium in Iron Determined by Mercury Cathode Method	Jan	65
Friedman, Leo R.: Producing Malleable Cast Iron	Oct	39
Fry, Eugene W.: Sand Control Should Include Mixer Operator Training	Nov	56

G

Gallney, J. W.: Economy Plus from Vacuum Cleaning in Foundries	Apr	111
Geld, I., J. Carroll and G. Norwitz: Colorimetric Determination of Aluminum in Steels	Apr	105
Gilbert, R. H., and R. A. Colton: Optimum Aluminum Additions in Commercial Yellow Brass	Apr	135
Given, Wm. B., Jr.: Significance of Industrial Safety and Hygiene	Nov	21
Goldberg, S.: Colorimetric Determination of Nickel in Monel Metal	July	66
Govins, H. G.: Steel Casting in South Africa—Feeding Techniques	Nov	50

H

Hallberg, W. A.: Foundry Coke Handling from Cart to Charging Floor by Bucket Elevator	Mar	27
Hart, Thomas E.: Slagging Practice—A Means of Cupola Control	Oct	64
Hassell, Charles T.: Wage Incentive Administration	Apr	127
Hildebrandt, Vaughn D.: Binary Copper-Beryllium Casting Alloys	Sept	34
Hoenicke, Edward C.: Tools to Him That Can Handle Them	May	33
Howarth, Alfred J.: Develop Gating Formula for Aluminum Alloy Castings	Aug	32

	Issue	Page
I		
Isenburger, Herbert R.: Apply Radiosotope—Cobalt 60—to Radiography of Castings	July	49
J		
Jacoby, R. H., and M. Petty: Refractory Practice in Acid Electric Steel Melting	Apr	117
Johnson, W. H., W. O. Baker and W. S. Pellini: Principles of Gating Design	Apr	106
Juroff, Alex J.: Equipment for Degassing Magnesium Alloy Melts	Mar	28
K		
Kane, J. M., and R. V. Sloan: Fume Control—Electric Melting Furnaces	Nov	33
Kennard, T. G. and J. F. Drake: Closed Top System in Cupola Stack Emission Control	Feb	55
Krynitsky, A. I.: Silica Sands—Sieve Analysis	Aug	40
Krzyszewski, Stanley: Selection and Application of Cleaning Room Equipment	Apr	96
L		
LaRochelle, A. E., and J. A. Fournier: Magnesium in Iron Determined by Mercury Cathode Method	Jan	65
Landis, Richard M.: Radiography in the Steel Foundry	Jan	58
Lane, Donald F.: Expand Foundry Competitive Position Through Better Personnel Training	Nov	60
Lipson, S., and H. Rosenthal: Precision Casting Aluminum in Moist Investment Molds	Apr	122
Lubker, R. A., and W. E. Mahin: Poll Shows Principal Causes for Defective Aluminum Sand Castings	June	51
M		
MacConachie, James, and H. H. Fairfield: Evaluating Casting Finishes	Feb	47
Mahin, W. E., and R. A. Lubker: Poll Shows Principal Causes for Defective Aluminum Sand Castings	June	51
Maloney, Wm. W.: Five Principles Govern All A.F.S. Activity	June	23
McAfee, E. J.: How to Use Phenolic Casting Resins for Pattern Coatings	Feb	27
McAfee, E. J.: Plastic Patternmaking for Small Pattern Shop	Oct	42
McElwee, R. G.: Participating in A.F.S. Committee Work	July	21
Miller, W. L., and George Norwitz: Colorimetric Determination of Nickel in Brasses and Bronzes	Oct	67
Mohr, B., and E. M. Kramer: Magnesium Hammer Handles Cast in Permanent Molds	June	28
Mojicar, Luis: Cuban Trainee Looks at U.S. Patternmaking	Aug	37
Morral, R. R.: Nodular Iron—A Bibliography	July	61
Mulcahy, B. P.: Burning In the Cupola Bed	July	42
N		
Norwitz, George: Copper Electrodeposition from Aluminum Alloys Containing Tin and Antimony	Aug	27
Norwitz, George, and W. L. Miller: Colorimetric Determination of Nickel in Brasses and Bronzes	Oct	67
Norwitz, G., J. Carroll and I. Geld: Colorimetric Determination of Aluminum in Steels	Apr	105
O		
Olmsted, R. H.: Core Oil Evaluation Method	June	58
O'Neill, Hugh: Metal Founding Through the Ages	Mar	50
P		
Pellini, W. S., W. H. Johnson, and W. O. Baker: Principles of Gating Design	Apr	106
Petty, M., and R. H. Jacoby: Refractory Practice in Acid Electric Steel Melting	Apr	117

	Issue	Page
R		
Raring, F. W., and A. I. Krynitsky: Silica Sands—Sieve Analysis	Aug	40
Rheder, J. E.: Desulphurizing Gray Cast Iron with Magnesium	Sept	43
Riecks, F. C.: Train Tomorrow's Foundrymen Today	Oct	27
Rivet, John G.: Better Sulphur Elimination in Basic Open Hearth Melting	Dec	61
Robeck, C. A.: Non-Ferrous Foundry Practice	May	64
Roncercay, Robert: French Foundry Casts Chain Centrifugally	Sept	41
Rosenthal, H., and S. Lipson: Precision Casting Aluminum in Moist Investment Molds	Apr	122
Rosenthal, Philip C.: Basic Principles Common to Foundry Melting Practices	Jan	48
S		
Sandelin, R. W.: Gray Iron, Steel, Malleable Galvanizing Characteristics	Dec	64
Sanders, K. L.: Dies for a Malleable Production Foundry	Aug	24
Schroeder, Roy W.: Increased Activity Marks 1950 Apprentice Contest	Aug	28
Schumacher, Franz: Insertion Process Cuts Cost of Matchplate Manufacture	Sept	30
Scobie, Herbert F.: Nodular Iron Status	Oct	46
Seelbach, Walter L.: The Road Ahead	Dec	27
Seing, F. G.: Personnel Plans Made Now Assure Industry Growth	Jan	21
Sherman, M.: Direct Colorimetric Determination of Copper and Iron in Tin- and Lead-Base Alloys	Sept	54
Simpson, Bruce L.: Castings Can Do It Better	Jan	34
Sloan, R. V., and J. M. Kane: Fume Control—Electric Melting Furnaces	Nov	33
Smith, E. K.: Southern California Chapter Student Essay Contest	July	65
Smith, Howard W.: Chicago's Lane Tech High School Benefits From Chapter Teacher Cooperation	May	90
Singh, Man: India's Mystery Iron Pillar—Casting or Weldment	Oct	49
Sober, W. B., and J. L. Yarne: Magnesium Determinations in Nodular Cast Iron—Sampling and Analysis Methods	June	33
Stanton, Wyllys G.: Summer Foundry Work for Student Engineers	Mar	60
Stolze, G. A., and K. J. Yonker: Special Investment Casting Techniques	Oct	33
Sutherland, F. E.: Metallurgy of Iron—Base Rolls	Aug	46
T		
Tilley, Milton: Malleable Iron Annealability	May	88
V		
Vennerholm, Gosta: Foreign Foundry Developments Merit Attention	Aug	21
W		
Webbere, F. J.: Auxiliary Oxygen Applied in 72-inch Production Cupolas	June	40
Wells, Alfred E.: How to Build Strength into Large Patterns	June	38
Whitney, L. L.: Metallurgical Oxygen Speeds Foundry Open Hearth Melting	May	57
Williams, M. W.: Centrifugal Casting of Welding Rods	Jan	44
Y		
Yarne, J. L., and W. B. Sober: Magnesium Determinations in Nodular Cast Iron—Sampling and Analysis Methods	June	33
Yonkers, K. J., and G. A. Stolze: Special Investment Casting Techniques	Oct	33
Z		
Zall, David M.: MnSi and FeSi Determinations in Manganese Bronze	Feb	61